PS3937.01 ELECTRONIC TECHNICIAN TRAINEE DEVELOPMENT PROGRAM

Program

Statement

OPI: ADM
NUMBER: 3937.01
DATE: December 31, 1996
SUBJECT: Electronic Technician Trainee
Developmental Program

1. <u>PURPOSE AND SCOPE</u>. To establish a developmental program for Electronic Technicians and specify selection and training requirements.

These positions are established at institutions for no more than 18 months. The Central Office funds the position for only one year. After that year, the institution shall be responsible for the salary of the trainee until they are transferred into a permanent position.

2. <u>PROGRAM OBJECTIVES</u>. The expected results of this program are:

   a. Qualified Bureau employees will be recruited and trained as Electronic Technicians.

   b. Successful trainees will be qualified for Electronic Technician positions in the Bureau.

3. <u>DIRECTIVES AFFECTED</u>

   a. <u>Directives Rescinded</u>. None.

   b. <u>Directives Referenced</u>

      PS 3000.02   Human Resource Management Manual (11/01/93)
      PS 4200.09   Facilities Operations Manual (04/03/96)

4. <u>STANDARDS REFERENCED</u>

   a. American Correctional Association Foundation/Core Standards for Adult Correctional Institutions: None

   b. American Correctional Association Foundation 3rd Edition Standards for Adult Correctional Institutions: None

   c. American Correctional Association Foundation/Core Standards

for Adult Local Detention Facilities: None

   d. American Correctional Association Foundation 3rd Edition
Standards for Adult Local Detention Facilities: None

   e. American Correctional Association Foundation 2nd Edition
Standards for Administration for Correctional Agencies: None

5. <u>INSTITUTION REQUEST FOR A TRAINEE POSITION</u>. A Warden who
wishes to establish an Electronic Technician trainee position
shall make a written request through the Regional Director to the
Regional Facilities Administrator using the appropriate format
(Attachment A).

The requesting institution must:

   # Have an Electronic Technician on staff who shall serve as
      trainer for the Electronic Technician trainee. The trainer
      must have at least one year of experience as an Electronic
      Technician in a Bureau institution and be available during
      the entire training period, and

   # Agree to fund the specialized training.

6. <u>REGIONAL REVIEW</u>. The Regional Facilities Administrator shall
evaluate the request and, if approved, forward it to the Chief,
Facilities Operations, Central Office. Each request shall be
submitted on a list that clearly identifies regional training
priorities (see Attachment B).

7. <u>CENTRAL OFFICE REVIEW AND PROCESSING</u>

   a. The Central Office Facilities Operations Section shall
initiate form SF-52 to announce and select the position.

   b. When the announcement closes, the Central Office Staffing
Branch shall establish a Best Qualified List and forward it to
Facilities Operations staff for evaluation.

   c. The Regional Facilities Administrator and Warden shall be
advised of the candidates on the Best Qualified List.

   d. The Chief, Facilities Management Branch, shall make the
final candidate selection.

   e. If there are no applicants or if no selection is made
within 120 days, the Central Office may withdraw the position.

8. <u>TRAINING PROCEDURES</u>. Using the Electronic Technician Trainee
Development Plan (Attachment C) as a guide, the institution shall
establish a training schedule based on the individual trainee's
abilities.

   a. The trainee shall progress through the training with
periodic reviews by the Regional Telecommunications Specialist.

   b.   The trainee and Facility Manager shall submit Monthly
Trainee Progress Reports to the Regional Facilities
Administrator.

   c.   The Regional Facilities Administrator shall forward the
Monthly Trainee Progress Report to the Chief of Facilities
Operations with the Monthly Facilities Operations Reports.

   d.   When a trainer (institution Electronic Technician) is
unable to complete training a trainee, the Facility Manager shall
be responsible for continued training and documentation and
coordinate the training with the Regional Telecommunications
Specialist.

The institution shall handle all administrative and personnel
functions concerning the trainee including promotions or job
applications for a permanent duty assignment.

9.   REASSIGNMENT AFTER TRAINING.   After the trainee has been
selected for a permanent position, the Regional Facilities
Administrator shall notify the Chief, Facilities Operations, in
writing of the location and effective date of the reassignment
and provide a copy of form SF-52.

All trainee positions shall be returned to the Central Office
after the training period is completed.

10.   INSTITUTION RENEWAL OF TRAINING PROGRAM.   If the institution
desires to continue participating in the developmental program,
the Warden shall make another request in accordance with Section
5 of this Program Statement.

                                   \s\
                                   Kathleen M. Hawk
                                   Director

(Letterhead)

                                        Date

MEMORANDUM FOR Regional Facilities Administrator

FROM: Warden, Local Institution

SUBJECT: Request for Electronic Technician Trainee Position

     The purpose of this memorandum is to request the
     establishment of an Electronic Technician trainee position
     at _____.

     This institution has a skilled Electronic Technician on
     staff who shall serve as the trainer for the trainee. We
     will provide funds for the specialized training needed by
     the trainee to sucessfully complete the program.

     If approved, the Central Office will fund this position for
     one year. This institution will pay the salary of the
     trainee for all training exceeding one year and until the
     trainee is placed in a permanent position.

     We will provide monthly reports on the trainee's progress to
     the Regional Office and alert the Regional Facilities
     Administrator of any special problems that may arise.

     Our current Electronic Technician is _____ who
     has been the technician at this facility for _____ years.

     If you need additional information, please advise.

(Letterhead)

Date

MEMORANDUM FOR   , CHIEF
              FACILITIES OPERATIONS

FROM:

SUBJECT: Request for Electronic Technician Trainee Position

The purpose of this memorandum is to request an Electronic
Technician trainee position at _____.

The application has been reviewed and meets the criteria of the
Electronic Technician Developmental Program Statement.

The request has been approved by this office and is included on
the Regional training location priority list below.

        1.
        2.
        3.
        4.

If you have any questions, please call me.

FACILITIES MANAGEMENT DEVELOPMENT PLAN
ELECTRONICS TECHNICIAN TRAINEE

FACILITIES MANAGEMENT DEVELOPMENT PLAN

ELECTRONICS TECHNICIAN
TRAINEE
ESTIMATED COMPLETION SCHEDULE

I.	Perimeter Intrusion Detection Systems.	160 HRS
II.	Radio Communications Systems and Equipment.	160 HRS
III.	Door/Gate Controls and/or Alarms.	40 HRS
IV.	Closed Circuit Television.	80 HRS
V.	Telephone Systems.	320 HRS
VI.	Microwave Motion Detection Alarms.	40 HRS
VII.	Fire and Smoke Alarm System.	160 HRS
VIII.	Control Centers.	80 HRS
IX.	Metal Detector and Detector Type X-ray.	20 HRS
X.	Remote Control Devices.	20 HRS
XI.	S.I.S. Equipment.	40 HRS
XI.	Data Processing Equipment.	20 HRS
XII.	Intercom and Paging System.	40 HRS
XIII.	Window Alarms.	10 HRS
XIV.	Facilities Operations Manual.	40 HRS

FACILITIES MANAGEMENT DEVELOPMENT PLAN
ELECTRONICS TECHNICIAN
TRAINEE

This is a recommended guide to define training requirements based
on the trainee's abilities. Completion of the Facilities
Management Development Plan is based upon several factors.

Specifically, each participant is requested to maintain a folder
or binder in which examples, narrative descriptions, and the
Facilities Management Development Plan checklist are contained.
The Trainer will review each identified training segment when
completed and the Facility Manager will certify completion.

The Trainee's performance evaluations will be affected by the
level of compliance which is demonstrated with respect to
completion of the plan.

The following constitutes the Facilities Management Plan
checklist for _____.

There are signature blocks for all reviewers and certifiers after
each segment and on the last page of the checklist. The Regional
Telecommunications Specialist will review the entire manual upon
completion of the same for certification.

A monthly progress report will be completed by the Trainee and
the Trainer. This progress report will be included in the Monthly
Facilities Report sent to the Region with the Facility Managers
comments. The Regional Telecommunications Specialist will
forward the reports to the Central Office Facilities Operations.

The Electronics Technician Trainee shall satisfactorily
demonstrate a professional level of competence in all of the
following systems:

I. Perimeter Intrusion Detection Systems.

    A. Sensor components.
        1. Power supply.
            a. Function.
            b. Voltage adjustment.
        2. Power supply regulator.
            a. Function.
            b. Voltage adjustment.
        3. Final regulator.
            a. Function.
            b. Voltage adjustment.
        4. Battery charger.
            a. Function.
            b. Voltage adjustment.
        5. Fence cards and processors.
            a. Function.
            b. Sensitivity adjustment.
            c. Tamper adjustment.
        6. Sound and motion sensor.
            a. Function.
            b. Installation.
            c. Maintenance.
        7. Lightening protection.
            a. Fence grounding.
            b. Sensor array protection.

    B. Annunciator system.
        1. Operation.
            a. Response.
            b. Reset.
            c. Access.
        2. Programming.
            a. Time and date.
            b. Assign transponders.
            c. Delete transponders.
            d. Obtain printout of transponders.
        3. Maintenance.

    C. Battery backup systems.
        1. Function.
        2. Maintenance and log requirements.
        3. Replacement.

D. Transponder link between sensor and annunciator systems.
    1. Function.
    2. Installation.
    3. Maintenance.

E. Communication link with the mobile map system and the
    two way radio.

F. System testing.
    1. Physical fence testing.
    2. Visual fence examination.

G. Use of service manuals and introduction to local and
    regional service vendors.

H. Attend and successfully complete formal training by
    manufacturer.

I. Compliance with all parts of the Facilities Operations
    Manual.
    1. Record keeping.
        Monthly Perimeter Intrusion Detection
        Systems Report.
    2. Review and update preventative maintenance
        procedures.

Reviewed by _____ Date:_____

Certified by _____ Date:_____

II. Radio communications systems and equipment.

    A. All two way radio equipment.
        1. Portable radios.
            a. Operation.
            b. Function.
            c. Minor in-house repairs.
            d. Maintenance.

        2. Body alarm transmitters and receiver.
            a. Operation.
            b. Function.
            c. Maintenance.

        3. Chargers for all battery operated radios and body
           alarms.
            a. Operation.
            b. Function.
            c. Maintenance.

        4. Mobile radios.
            a. Operation of mobile radio, and it's relation
              to the Perimeter Detection System.
            b. Function.
            c. Maintenance.

        5. Base station.
            a. Operation of Base Station.
            b. Function.
            c. Maintenance

        6. Radio control panel.
            a. Operation of panel.
              i. Relation to the base station.
              ii. Relation to annunciator map system
                in the mobile trucks.
            b. Function.
            c. Maintenance.

        7. Auxiliary base station.
            a. Operation.
            b. Function.
            c. Maintenance.

    B. Radio pager system.
        1. Operation.
        2. Function.
        3. Maintenance.

C. Compliance with all parts of Facilities Operations
    Manual.
    1. Radio testing and review requirements.
    2. Understand and prepare service contracts.
    3. Record keeping.
          Maintenance records.
    4. Review and update preventative maintenance
        procedures.

Reviewed by _____ Date:_____

Certified by _____ Date:_____

III. Door/Gate controls and/or alarms.

    A. Control sally port.
        1. Gate control.
            a. Operation.
            b. Function.
            c. Maintenance.
        2. Interlocking system.
            a. Function.
            b. Maintenance.
        3. Indicating system.
            a. Function.
            b. Maintenance.
        4. Wiring.
            a. Series loop.
            b. Push button.

    B. Vehicular sally port.
        1. Gate control.
            a. Operation.
            b. Function.
            c. Maintenance.
        2. Interlocking system.
            a. Function.
            b. Maintenance.
        3. Indicating system.
            a. Function.
            b. Maintenance.
        4. Wiring.
            a. Series loop.
            b. Push button.
        5. Gate intercom / buzzer.
            a. function.
            b. wiring.

    C. Special Housing sally port.
        1. Gate control.
            a. Operation.
            b. Function.
            c. Maintenance.
        2. Interlocking system.
            a. Function.
            b. Maintenance.
        3. Indicating system.
            a. Function.
            b. Maintenance.
        4. Wiring.
            a. Location.
            b. Maintenance.

D. Compliance with all parts of the Facilities Operations
    Manual.
    1. Record keeping.
    2. Review and update preventative maintenance
        procedures.

Reviewed by _____ Date:_____

Certified by _____ Date:_____

IV. Closed Circuit Television.

     A. Cameras.
         1. Function.
         2. Installation.
         3. Maintenance.

     B. Monitors.
         1. Function.
         2. Installation.
         3. Maintenance.

     C. Recording equipment.
         1. Operation
         2. Function.
         3. Installation.
         4. Maintenance.

     D. Controls.
         1. Operation.
         2. Function.
         3. Installation.
         4. Maintenance.

     E. Wiring.

     F. Use of service manual and introduction to local
         and regional vendors.

     G. Compliance with all parts of the Facilities Operations
         Manual.
         1. Record keeping.
         2. Review and update preventative maintenance
             procedures.

Reviewed by _____ Date:_____

Certified by _____ Date:_____

V. Telephone Systems.

    A. Operations of the PBX telephone system.
        1. Use of service manuals and introduction to
            local and regional service vendors.
        2. Operation of the PBX switching systems.
        3. Types of circuit cards used.
        4. Circuit board programming.
        5. Memory programming.
        6. Power supply and fusing.
        7. Commercial and FTS trunks, their "D" mark
            location.
        8. Direct Inward Dialing trunks.
        9. Function and operation of "off the hook"
            alarm system.
        0. Function and operation of the "222" alarm
            system.
        1. Function and operation of the "333" system.

    B. Installation of telephone equipment and
        associated wiring.
        1. Inmate phone system.
            a. Individual phone disconnect switches.
            b. Hookup to the inmate phone monitoring
                and recording system.
            c. Introduction to local vendor for
                service and installation of inmate
                phones.
        2. Staff phone system and programming.
        3. Layout of Institution wiring.
            a. Location of punch down blocks.
            b. Tone tracing of wire pairs.
            c. Cable interconnection.
        4. Two wire loop system and ground start.
        5. Importance of proper grounding.

    C. Understanding of the emergency speed dialing
        system as to programming and wiring.

    D. Coordinating with local, FTS, and GSA phone
        management companies.

    E. Preventative maintenance.

    F. Formal training on PBX systems provided by
        the manufacturer.

G.   Compliance with all parts of the Facilities
     Operations Manual.
     1.   Record keeping.
          a.   Installation records.
               i.   Phone wiring.
               ii.   Phone location.
               iii. Phone programming.
          b.   Maintenance records.
     2.   Review and update preventative maintenance
          procedures.

Reviewed by _____ Date:_____

Certified by _____ Date:_____

VI. Microwave Motion detection alarms.

    A. Sensor system.
       1. Function.
       2. Wiring connection to transponder.

    B. Annunciator system.
       1. Operation.
       2. Function.
       3. Transponder/input programming.

    C. Use of service manual and introduction to local
       and regional vendors.

    D. Compliance with all parts of the Facilities Operations
       Manual.
       1. Record keeping.
           Monthly Perimeter Intrusion Detection Systems
           Report.
       2. Review and update preventative maintenance
           procedures.

Reviewed by _____ Date:_____

Certified by _____ Date:_____

VII. Fire and smoke alarm system.

    A. Control panel.
       1. Operation.
          a. Alarm resetting procedure.
          b. Trouble resetting procedure.
       2. Function.
         aintenance.

    B. Sensors.
       1. Function.
       2. Maintenance.

    C. Annunciator.
       1. Operation.
       2. Programming.
       3. Function.
       4. Maintenance.

    D. Wiring.
       1. Theory.
       2. Installation.

    E. Use of service manuals and introduction to local
       and regional vendors.

    F. Compliance with all parts of Facilities Operations
       Manual.
       1. Smoke detector cleaning and testing.
       2. Record keeping.
       3. Review and update preventative maintenance
          procedures.

Reviewed by _____ Date:_____

Certified by _____ Date:_____

VIII. Control Centers.

    A. Proper procedures to maintain security of the
       Control Center.

    B. Purpose and operation of all of the equipment
       within the Control Center.
   1. Annunciation Panel.
   2. Radio Control panel.
   3. Body alarm receiver.
   4. 333 telephone.
   5. Attendant console.
   6. Inmate phone switching.
   7. CCTV camera controls.
   8. Emergency speed dialing equipment.
   9. Public address system.
   10. Sally Port and Rear Gate intercom.
   11. SENTRY Computer.
   12. Radio and body alarm battery chargers.
   13. Door and Gate Controls (including
        interlocking mechanisms).
   14. CCTV monitoring equipment.
   15. 222 phone equipment.
   16. No-dial phone equipment.

Reviewed by _____ Date:_____

Certified by _____ Date:_____

IX.   Metal detector and detector type X-ray.

    A.   Stationary.
       1.   Operation.
       2.   Function.
       3.   Calibration and testing.
       4.   Maintenance.

    B.   Portable.
       1.   Operation.
       2.   Function.
       3.   Calibration and testing.
       4.   Maintenance.

    C.   Use of service manual and introduction to local
       and regional vendors.

    D.   Compliance with all parts of the Facilities Operations
       Manual.
       1.   Record keeping.
       2.   Review and update preventative maintenance
           procedures.

Reviewed by _____ Date:_____

Certified by _____ Date:_____

X. Remote Control Devices.

    A. Location of all remotely controlled units and
       their controllers.

    B. Theory and operation of interlocking system of
       remote control devices.

Reviewed by _____ Date:_____

Certified by _____ Date:_____

XI. S.I.S. Equipment.

    A. Telephone scanner.
       1. Operation of computer control.
       2. Installation.
       3. Function.
       4. Repair.

    B. Communications link.
       1. Installation.
       2. Function.

    C. Phone number storage unit.
       1. Operation of computer control.
       2. Installation.
       3. Function.

    D. Audio recording equipment.
       1. Operation.
       2. Installation.
       3. Function.
       4. Maintenance and repair.

    E. Use of service manual and introduction to local
       and regional vendors.

    F. Record keeping.

Reviewed by _____ Date:_____

Certified by _____ Date:_____

XII. Data processing equipment.

    A. Personal computers.
        1. Operation.
        2. Basic function.
        3. Installation.
        4. Bureau-approved software.
        5. Security.

    B. FAX machines.
        1. Operation.
        2. Basic function.
        3. Installation.

    C. Batch Transmission System.
        1. Operation.
        2. Basic function.
        3. Installation.

    D. Modems
        1. Operation.
        2. Basic function.
        3. Installation.
        4. Security

    E. SENTRY system.
        1. Operation.
        2. Basic function.
        3. Installation.
        4. Security

    F. Use of service manual and introduction to local
        and regional vendors.

    G. Record keeping.

Reviewed by _____ Date:_____

Certified by _____ Date:_____

XIII. Intercom and Paging System.

    A.   Intercom components.
        1. Amplifier w/controls.
            a. Operation.
            b. Function.
            c. Maintenance.
        2. Speakers.
        3. Wiring.

    B.   Paging system components.
        1. Amplifier.
            a. Function.
            b. Installation.
            c. Maintenance.
        2. Controls.
            a. Operation.
            b. Function.
            c. Maintenance.
        3. Speakers.
        4. Line distribution system wiring.
            a. Function.
            b. Installation.

    C.   Use of service manual and introduction to local
        and regional vendors.

    D.   Compliance with all parts of the Facilities Operations
        Manual.
        1. Record keeping.
        2. Review and update preventative maintenance
            procedures.

Reviewed by _____ Date:_____

Certified by _____ Date:_____

XIV. Window alarms.

    1. Function
    2. Operation
    3. Maintenance

Reviewed by _____ Date:_____

Certified by _____ Date:_____

XV. Grounding and Surge Protection

A. National Electrical Code, NFPA 70 (1993)
    1. Article 250 - Grounding
        a. Section B, Circuit and System Grounding
        b. Section C, Location of System Grounding
        c. Section D, Enclosure Grounding
        d. Section E, Equipment Grounding
        e. Section F, Methods of Grounding
        f. Section G, Bonding
        g. Section H, Grounding Electrode System
        h. Section J, Grounding Conductors
        i. Section K, Grounding Conductor Connections

    2. Article 280 - Surge Arrestors

    3. Article 310 - Conductors for General Wiring

    4. Article 645 - Electronic Computer/Data Processing
        Equipment

        645-15. Grounding

    5. Article 720 - Circuits and Equipment Operating at
        Less than 50 volts

    6. Article 725 - Class 1, Class 2, and Class 3 Remote
        Control, Signaling, and Power-Limited Circuits

    7. Article 760 - Fire Protective Signaling Systems

    8. Article 770 - Optical Fiber Cables and Raceways

    9. Article 780 - Closed-Loop and Programmed Power
        Distribution

    10. Article 800 - Communications Circuits

    11. Article 810 - Radio and Television Equipment

    12. Article 820 - Community Antenna Television and
         Radio Distribution systems

Reviewed by_____   Date_____

Certified by_____   Date_____

XVI. Facilities Operations Manual.

    A. Chapters requiring a thorough and complete
       knowledge.
        1. Chapter 2: Work Programming, Scheduling and
           Reporting.
        2. Chapter 3: Buildings and Facilities (B&F)
           Projects.
        3. Chapter 5: Preventative Maintenance/
           Inspections.
        4. Chapter 7: Life Safety/Fire Protection in Buildings
           and Structures.
        5. Chapter 9: Telecommunications Systems and
           Electronic Equipment.

    B. Chapters requiring a basic knowledge.
        1. Chapter 1: Facilities Administration and
           Organization.
        2. Chapter 4: Architect - Engineer Services.
        3. Chapter 6: Energy Conservation
        4. Chapter 8: Environment Control.
        5. Chapter 10: Automotive Acquisition,
           Maintenance and Operations.
        6. Chapter 11: Mechanical Systems and Power Plant
           Operations
        7. Chapter 12: Electrical Systems.
        8. Chapter 13: Physical Plant Review Program.
        9. Chapter 14: Plumbing Systems.
       10.   Chapter 15: Reserved
       11.   Chapter 16: Automated Systems.

Reviewed by _____ Date:_____

Certified by _____ Date:_____